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A SOCIETY FOR THE ADVANCEMENT

OF THE

SCIENCE OF ELECTROPLATING

MAY, 1926

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KRIEGE-HOOKER

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THE BIG EVENT OF THE YEAR

The Fourteenth Annual Convention

AMERICAN ELECTROPLATERS' SOCIETY
NEWARK, N. J.

Headquarters Mosque Salaam Temple

See the Wonderful Program the Committee has arranged for you—Pages 13-17, this issue. Let's make this the Best Ever.

JUNE 28, 29, 30; July 1, 1926

MONTHLY REVIEW

Published by the

American Electroplaters' Society

ONEIDA, NEW YORK

Editor's Office, 166 Willow Place, Sherrill, New York

VOL. XIII MAY, 1926 No. 5

EDITORIAL

THE MISSION OF THE AMERICAN ELECTROPLATERS

By Charles H. Proctor

I promised your publicity committee to say something this afternoon about the Mission of the American Electroplater. In the words of the immortal poet, Milton.

"How to begin how to accomplish best; his end of being on earth and mission high." Shakespeare said, "All the world's a stage, we have our entrances and our exits we are all actors let each one play his part, nobly and well." The mission of the Electroplater commences when he arrives on this terrestial sphere and ends when he leaves it to go into the great unknown from whence no traveller ever returns. We are all children and playthings of destiny, it makes or breaks us as it may desire.

We sometimes wonder what is the law of life. It is retribution. It is a phantom that hovers about us, as though it were our shadow. Go where we may it is at our elbow chalking up our misdeeds against the day of collection, some call it fate. Give it whatever name you choose. There it is. Sad is the day for any man when he becomes absolutely satisfied with the life he is living, the thoughts he is thinking, the deeds that he is doing when there ceases to be forever beating at the door of his soul a desire to do something larger, which he feels and knows he was intended to do.

Then the Mission of the Electroplater is to accomplish something more each day, by word or deed, that will make him a better man, a more intelligent worker, and in his

field of action more valuable to his employer and himself. The motto of the American Electroplaters' Society, "Knowledge is Power," is a splendid mottof if each member of the Society gains more knowledge each day and has learned how to apply it. Action not words is the great factor in our life.

Longfellow tells us in his Psalm of Life, "Lives of great men all remind us we can make our lives sublime and departing leave behind us foot-prints in the sand of time." It is your mission as American Electroplaters today to leave your foot prints, so that those who follow you, who take up the work after you can continue to trace them in the sand of time . We often hear now-a-days that the Chemist will eventually absorb the profession of the Electroplater. Some seem to feel that is the Chemist's Mission on earth.

This is a myth that belongs to the Middle Ages, it is like the Alchemists Dream of changing the base metals into gold. It is the experience of years that makes the American Electroplater the most successful plater in the world, but he does not gain the knowledge in a day. It is the years of intensive study, of application not of one particular branch of the art, but of the entire field of electro-deposition of metals, and their application in the commercial industry that makes him the super plater.

You know as well as I do that you should be chemist enough to analyze your solutions, electricians enough to control your current and actions. You should know Ohms and Faradays laws. You should know something of mechanical engineering so that you can value your operations to the minimum thereby reducing costs to your employer and to the final consumer of the manufactured product.

If you are an intelligent plater you do not have to spend years in the study of Chemistry, or Electricity, of mechanics to be a master of your art. Chemistry is a splendid factor, one of the greatest of sciences the world ever produced. Obtain a knowledge of its laws and apply it for your individual needs. When you can analyze your solutions so that you may know their variation under constant manipulation you know all of the science of chemistry you require.

The same applies to electricity and mechanics. Analysis of plating solutions do not tell you their failings, there are so many other factors that can produce adverse results. You know this is true as well as I do, so after all it is the experience of years that makes the successful master plater. You can not gain experience without paying the price in hours of intense study.

Your mission as an American Electroplater is to gain more knowledge each day, to know how to apply it scientifically from a basic knowledge of the sciences involved in electro plating. Then you will be as you really should be the master Electroplater of the World. I am going to close with the immortal words of Abraham Lincoln:

"Let us have faith that right makes might: and in that faith let us to the end, dare to do our duty as we understand it."

Listen not to the fellow who says "it can't be done.' He is interfering with your chance of success. He is dangerous. The fellow who doesn't know it cannot be done is very apt to wade right in and do it. When you come to think of it all progress grows out of things which somebody says cannot be done. Keep your eye on the fellow who says it can not be done. If you want his job he is your oyster.

PAPERS ON PLATING

At the meeting of the American Electrochemical Society in Chicago, April 26, 1926, five papers on plating were presented. The following abstracts of four of these papers were prepared for the REVIEW by W. Blum.

(In addition a paper by H. E. Haring on the measurement of polarization was presented. This was published in some detail in the April, 1926, REVIEW.)

ABSTRACT

Electrochemical and X-Ray Studies of Lead Deposits

By Per K. Frolich, G. L. Clark and R. H. Aborn

The authors studied the cathode polarization in the deposition of lead from acetate, nitrate, perchlorate, fluoborate and fluosilicate solutions, and also examined the

structure of the deposits by means of X-rays. The work led to the following conclusions:

1. The smoothest and finest-grained deposits were obtained from perchlorate solutions containing gelatine and an excess of free acid.

3. The results agreed with the predicted effects of different conditions upon the structure of the deposits, for example that the grain size decreases with an increase in current density. It was surprising to find, however, that the tendency for a fibrous structure increased with the current density.

3. The grain size increases with the thickness of the deposit.

4. It was found that the structure of the base metal, which in these experiments was usually platinum, affects the structure of the lead deposit, unless the base metal is first given a light coat of beeswax.

5. In general the cathode polarization in lead plating is relatively low.

6. Gelatine decreases the growth of crystals and produces more uniform distribution of metal.

Note by Abstractor:

The results of this research are of interest, as they represent the application of a new tool, X-rays, to the study of problems in electrodeposition. The fact that the results confirm recent theories of polarization and metal structure helps to support such views.

ABSTRACT

Electrodeposition of Zinc From Electrolytes Containing Gelatine and Aluminum Sulfate

By Per K. Frolich

In a previous paper the author showed that the effects of gelatine in an acid copper solution and in a nickel solution could be at least partly explained by the fact that gelatine behaves both like a base and an acid. In an acid solution the gelatine acts like a base, and on passing the current it moves or "migrates" toward the cathode. In an alkaline solution it acts like an acid and migrates toward the anode. At a certain acidity (pH=4.7) it does not mi-

grate toward either the anode or cathode, because then its acidic and basic tendencies are just equal.

In this investigation the effect of the composition of the zinc solution, and its pH, upon the cathode polarization and efficiency, and the structure of the zinc deposits, was determined in solutions with and without gelatine. The effect of aluminum sulfate was also studied. The following conclusions were reached:

With the (relatively large) concentration of glue used (1 g/L or 1 part per 1000) no beneficial effect was observed on the structure of the deposit. This is explained by the fact that even though in the body of the solution the pH may be below 4.7, so that the glue migrates toward the cathode, the film of solution at the cathode surface is more alkaline, e. g., the pH may be between 5 and 6, causing the glue to migrate away from the immediate cathode surface.

The addition of glue increases both the anode and cathode polarization. No organic matter was found in the deposits.

Aluminum sulfate was found to improve the appearance of the deposits. This is believed to be due to the formation of aluminum hydroxide in the cathode film.

ABSTRACT

Hydrogen Ion Control of Nickel Plating Baths With the Quinhydrone Electrode

H. C. Parker and W. N. Greer

The fundamental method for measuring the pH or hydrogen ion concentration of solutions is by means of a hydrogen electrode. This involves relatively complicated apparatus, and considerable laboratory experience in order to obtain reliable results. Largely for this reason the colorimetric method of measuring pH is more commonly used in commercial work, such as in nickel plating.

In this paper an apparatus and method are described which are simpler than the use of a hydrogen electrode, and give more accurate results than the colorimetric method. Experiments are described which show that it is readily applicable to nickel plating baths. It can be used

not only to measure the pH of the solutions, but also to titrate a sample to determine the amount of acid or alkali required to produce any desired pH. A simple method is described by which the amount of acid or alkali needed is read directly from the burette reading for the titration.

The authors found that the results with the quinhydrone electrode are more accurate than colorimetric readings, in which they observed errors as much as 0.2 pH.

Note by Abstractor: In the discussion of this paper it was pointed out that with a little practice platers are usually able to measure the pH of nickel solutions within about 0.1 pH, which is sufficiently accurate for control work. It was therefore suggested that at the present time the quinhydrone electrode is not likely to replace the colorimetric method for the control of nickel plating, though it may prove very valuable for research work.

ABSTRACT

Note on the Protection of Iron by Cadmium

By H. S. Rawdon

It is usually assumed that from the electrochemical series, in which the metals are arranged in the order of their "normal single potentials," or solution pressures, it is possible to predict whether one metal will protect another from corrosion. Thus in this series it is universally agreed that the potentials of zinc, iron and copper are in the order given. This order is consistent with the fact that in contact with exposed iron, a zinc coating prevents corrosion of the iron, while a copper coating accelerates its corrosion.

The position of cadmium in the electrochemical series is uncertain. Most authors place it between iron and copper, and only a few place it between iron and zinc. If its potential were between those of iron and copper, we would not expect cadmium to protect iron against corrosion, although general experience indicates that cadmium behaves like zinc, and does protect the iron.

In order to get definite information on this point, plugs of different metals, including aluminum, zinc, cadmium, copper, nickel, tin, lead and chromium were inserted tightly into holes in small steel or iron plates. These were then

immersed in 0.5 **N** sodium chloride solution (containing about 4 oz/gal of sodium chloride). It was found that after 18 to 48 hours the iron was not rusted on the plates with the plugs of zinc and cadmium, while that with aluminum was slightly rusted, and the others were badly rusted. The zinc and cadmium plugs were decidedly etched, showing that these metals had acted as anodes, that is they had dissolved in the salt solution, and thereby prevented the iron from being attacked.

These experiments show that in a sodium chloride solution the cadmium does actually protect iron again corrosion. They do not necessarily prove, however, that the true position of cadmium in the electrochemical series is above iron, as other factors may be involved in fixing this "normal" potential.

PLANS FOR RESEACH ON ELECTROPLATING AT THE BUREAU OF STANDARDS

In the announcement by the American Electroplaters' Society of the plan to raise funds from manufacturers to extend the study of electroplating at the Bureau of Standards ,it was stated that the exact subjects for study would be decided upon after a conference of electroplaters and manufacturers was held. No definite plans have yet been made for this conference, which will be called as soon as the success of the fund is assured. Preparatory to such a conference the platers and manufacturers should consider the present activities of this section of the Bureau, and some of the projects that have been suggested for study.

The two principal researches now supported by Government funds are chromium plating and zinc plating .

The study of chromium has thus far been directed principally to the development and control of the process now used successfully on printing plates at the Bureau of Engraving and Printing. In co-operation with the International Association of Electrotypers a few tests have also been made upon the application of chromium to electrotypes to be used for very long runs or hard service. We now plan to make more fundamental studies of chromium deposition in order to determine what factors limit its gen-

eral use in plating, such as its low efficiency and poor throwing power; and to determine, if possible, how such obstacles may be overcome. Such a study will probably require at least two years' time of the two Bureau chemists now engaged upon it.

The study of zinc plating has been devoted so far chiefly to the acid zinc sulfate solutions. It is expected to complete this part of the investigation during the next few months, after which the conclusions will be published. Probably this work will be extended next year to include the zinc cyanide solutions.

In addition to the above researches, supported by Federal funds, a study of nickel electrotyping solutions has been financed by the International Association of Electrotypers, who have spent about $3,000 per year for this purpose for nearly two years, and expect to continue such research.

Among the additional problems that have been suggested for study, especially if funds are available through the Electroplaters' Society, are: (1) spotting out, (2) copper cyanide solutions, (3) brass plating, and (4) silver plating. These are not entirely independent, as a knowledge of cyanide plating solutions is involved in any study of spotting out, and a previous knowledge of copper and zinc cyanide solutions would help greatly in a study of brass plating. The program to be carried out may therefore depend not so much upon what subjects are to be studied as upon the order of study.

The exact salaries to be paid to research associates that may be employed with such funds must depend upon their experience and qualifications. If a fund of $10,000 per year is raised, it will probably be sufficient to employ three chemists and to pay their necessary traveling expenses. This is equivalent to doubling the present research force of this section, without materially adding to the overhead expense for administrative and clerical service. Laboratory facilities and equipment are now available for such an increase in force.

Whatever problems are therefore undertaken, and in what order, it is safe to predict that with such a fund,

progress, especially along lines of direct interest to platers and manufacturers, will be about twice as rapid as without such support. It remains for the platers and manufacturers to decide whether they want to make greater progress in this field.

Respectfully,

RESEARCH COMMITTEE

F. J. Hanlon
R. J. O'Connor
C. E. Vanderau

RESEARCH FUND DONORS

Herewith is a list of donors to our Research Fund, so that in soliciting your district you will know who has been interested in the advancement of the Electroplating Industry. Have you any more subscriptions? If so, send them in.

Would ask you to kindly drop us a line so that we may know itinerary of your program to assist this worthy mission of our Society, and hope to have it soon, as the time for the Annual Meeting is surely drawing near—only 58 short days.

With best wishes to you all, and thanking you in advance for your every co-operation in this cause, we are

Respectfully yours,

F. J. HANLON, Chairman
R. J. O'CONNOR
C. E. VANDERAU

List of Donors to Date Who Have Sent Checks

Name	Location	Years	Amount
Sterling Electroplating Co.,	Chicago, Ill.	1	$ 50.00
C. B. Sheperd Co.,	Detroit, Mich.	1	50.00
Waukegan Chemical Co.,	Waukegan, Ill.	1	50.00
A. P. Munning & Co.,	Matawan, N. J.	1	50.00
Speakman Mfg. Co.,	Wilmington, Del.	1	50.00
Felt & Tarrant Co.,	Chicago, Ill.	3	150.00
National Plating Co.,	Milwaukee, Wis.	1	50.00
Coleman Lamp Co.,	Wichita, Kan.	1	50.00
American Stove Co.,	St. Louis, Mo.	1	50.00
Pen Hardware Co.,	Reading, Pa.	1	50.00

Oneida Community Co., Ltd., Oneida, N. Y..	1	50.00
Smith & Wesson, Springfield, Mass.....	1	50.00
Gillette Safety Razor Co., Boston, Mass....	1	50.00
General Motors Corp., Detroit, Mich.....	1	50.00
Bell Laboratories, New York, N. Y.....	1	50.00
Crown Rheostat & Supply Co., Chicago, Ill..	1	50.00
International Nickel Co., New York, N. Y..	1	50.00
North East Electric Co., Rochester, N. Y....	1	50.00
Stewart-Warner Speedometer Corp., Chicago	1	50.00
Job Platers' Association, Chicago, Ill.....	1	50.00
Chicago Branch A. E. S., Chicago, Ill.....	1	50.00
American Zinc Institute, New York, N. Y..	1	50.00
General Electric Co., Schenectady, N. Y...	1	50.00
Stromberg Motor Devices, Chicago, Ill.....	1	50.00
Hanson & Van Winkle Co., Newark, N. J..	1	50.00
G. J. Nikolas & Co., Chicago, Ill.....	1	50.00
Canada Cycle & Motor Co., Weston, Canada	1	50.00
Montreal Branch, A.E.S., Montreal, Canada	3	150.00
J. B. Ford Co., Wyandotte, Mich.....	1	50.00
Frederic B. Stevens Co., Detroit, Mich.....	1	50.00
George A. Stutz Mfg. Co., Chicago, Ill.....	1	50.00
Westinghouse Elect. Products Co., Mansfield, Ohio	1	50.00
Egyptian Lacquer Co., New York, N. Y.....	1	50.00
Philadelphia Branch, A. E. S., Philadelphia.	1	50.00
Milwaukee Branch, A.E.S., Milwaukee, Wis.	3	150.00
St. Louis Branch, A. E. S., St. Louis, Mo....	1	50.00
New York Branch, A. E. S. New York.....	1	50.00
The Meaker Co., New York	1	50.00
Detroit Branch, A. E. S., Detroit, Mich.....	1	50.00
Toronto Branch, A. E. S., Toronto, Ont....	1	50.00
Cincinnati Branch, A. E. S., Cincinnati, Ohio	1	50.00
Indianapolis Branch, A. E. S., Indianapolis.	1	50.00
Hartford-Conn. Valley Branch, A. E. S., Hartford, Conn.	1	50.00
Total cash on hand		$2,450.00

FOURTEENTH ANNUAL INTERNATIONAL CONVENTION OF AMERICAN ELECTROPLATERS SOCIETY

Newark, N. J., June 28, 29, 30; July 1

Headquarters: Mosque Salaam Temple, Newark, N. J.

PROGRAM

Monday, June 28, 1926

8:00 A. M.—Registration and renewing of acquaintance.

9:00 A. M.—Meeting of Executive Board in Secretary's quarters.

10:00 A.M.—Meeting of Credential Committee.

10:30 A. M.—Visit to **Edison Lamp Works, Harrison, N. J.**

2:00 P. M.—Convention called to order by Chairman of Committee, Horace H. Smith; address by President Newark Branch, George Onkson.

Address of Welcome by Commissioner Murray, representing **"City of Newark."**

Response by Past Supreme President Frank J. Hanlon.

Address by Chas. H. Proctor, founder of A. E. S.

Annual address by Supreme President E. J. Musick.

Convention open for business.

Minutes of last regular meeting, report of officers, appointing of committees by Supreme President, presentation and reading of all resolutions.

Evening

Meeting called to order by Mr. Robert Beebe, director Essex County Vocational Schools.

Tuesday, June 29, 1926

8:30 A. M.—Educational Session.

1:30 P. M.—Papers and discussions.

3:00 P. M.—Meeting adjourned to visit plant of Hanson & Van Winkle Co.

8:00 P. M.—Papers and discussions.

Wednesday, June 30, 1926

8:00 A. M.—Trip to Raritan Copper Works, Raritan, N. J., and A. P. Munning Co., Mattawan, N. J.

8:00 P. M.—Papers and discussions.

Thursday, July 1, 1926

9:00 A. M.—Business session — Reports of Committees, election of officers, selection of convention city for 1927; adjournment.

Afternoon—Will go to Weequahic Park, where there will be boating, tennis, golf, races and our Baseball game, and taking of the Official Pictures.

Evening—Banquet, Installation of Officers, awarding of prizes for papers and exhibits, Dinner, entertainment and dancing.

Monday Evening

Robert O. Beebe, Director Essex County Vocational Schools —"Chemical Training in a Public School."

E. S. Shepherd, Ph.D., Assistant Director of Research, Eastman Kodak Co., Rochester, N. Y.—"Electroplating Rubber and Rubber Compounds" (illustrated).

Stanisulaus Skowronski, Ph.D., Chief Research Department, Raritan Copper Co., Perth Amboy, N. J.—"The Refining of Precious Metals" (illustrated).

Tuesday Morning

William Blum, Ph.D., President American Electro-Chemical Society, Chemist, U. S. Bureau of Standards—"Report of Progress of Electro Deposition at the Bureau of Standards.

Jacob Hay, Chicago Branch—"Preparing Surfaces for Japanning and Finishing."

Chas. H. Humphries, Director Research, Metals Protection Co.—"Cadmium Plating."

Walter Fraine, Superintendent Electroplating, National Cash Register Co.—"Tin Plating."

W. A. Taylor, Ph.D., Chemical Director, LaMotte Chemical Products Co.—"The A B C of Hydrogen Ion Concentration—pH."

W. E. Hughes, B.A. (Camb.), D.I.C. (London), author "Modern Electroplating"—"Faraday's Laws."

R. L. Shepherd and B. F. Lewis, C. B. Shepherd Co., Detroit, Mich.—"The Use of Permanganate in Nickel Solution."

E. W. T. Faint, Mack Plant, International Motors' Corp., Allentown, Pa.—"Plating of Automobile Parts for Service.

Adolph Bregman, Managing Editor "Metal Industry"—"The Value of a Trade Paper."

M. R. Thompson, Chemist U. S. Bureau of Standards—"A Study of Acid Zinc Solutions."

Tuesday Afternoon

Colin G. Fink, Ph.D., Secretary American Elertrochemical Society, Professor Electrochemistry Columbia University—"Addition Agents in Electroplating Baths."

Robert W. Mitchell, Massachusetts Institute of Technology —"Practical Application of Modern Chemical Theory to Metal Cleaning."

E. K. Strachan, Ph.D., Professor Physical Chemistry, Brown University—"Simple Methods of Chemical Control of Electroplating Operations; a course of study given in the Extension Department of Brown University."

Edwin M. Baker, B.S., Assistant Professor Chemical Engineering, University of Michigan—"Influence of Impurities Upon Nickel Deposition."

Tuesday Evening

Charles H. Proctor, Electroplating Expert, Roessler & Hasslacher Chemical Co., Founder American Electroplaters' Society—"The Electro Deposition of Tin."

E. W. Heil, St. Louis Branch—Current Measuring Instruments and Current Regulations."

J. DeGrazio, Chicago Branch—"Ironing Out a Few Wrinkles."

William J. R. Kennedy, Superintendent Electroplating, Westinghouse Electric & Manufacturing Co., Springfield, Mass.—"Cadmium Plating."

William M. Phillips, General Motor Co., Detroit, Mich.—"Specifications."

A. K. Graham, Instructor, Electrochemistry University of Pennsylvania—"Spotting Out."

Anthony Knechtel and Elias Schorr, N. Y. Branch—"Deposition and Grinding on Roto-Gravure Printing Cylinders."

Wednesday Evening

G. F. Stanton, Baltimore Copper Smelting and Rolling Co. —"Copper—From Mine to the Finished Product" (Illustrated).

Robert Suman, Dayton Branch—"Observations on Electrotyping."

T. R. Porter, Edison Appliance Co., Chicago, Ill.—"Choosing Buffing Compositions."

Winfred Scott, Frankford Arsenal, Philadelphia, Pa.—"Zinc Plating."

J. Underwood, Philadelphia Branch, A. E. S.—"Job Plating in a Manufacturing Plant."

Frank Hovath, St. Louis Branch, A.E.S.—"Plating Generators."

LADIES' PROGRAM

Monday, July 28, 1.926

Morning

9:00 to 12 M.—Registration and Reception of Visitors at MOSQUE TEMPLE (Salaam), Renewing of OLD Acquaintances.

Afternoon

2:00 P. M.—All the Ladies are kindly invited to attend opening of the Convention.

Evening

7:45 P. M.—Meet at Mosque Salaam Temple for an enjoyable evening and get acquainted. Card party to be held at the ELKS' CLUB, Broad Street.

Tuesday, June 29, 1926

Morning

9:00 A. M.—Assemble at Mosque (Salaam) Temple to visit plant of EDISON CO., Harrison, N. J., where a very interesting display has been arranged.

Afternoon

2:00 P. M.—Meet at Mosque (Salaam) Temple for auto ride over beautiful Orange Mountain Reservation. On returning, stop will be made at the residence of Mrs. Van Winkle Todd, Short Hills, N. J.

Evening

7:45 P. M.—Assemble at Mosque Temple for a trolley ride to OLYMPIC AMUSEMENT PARK.

Wednesday June 30, 1926

Morning

8:00 A. M.—Meet at Mosque (Salaam) Temple for an all-day auto trip to ASBURY PARK, NEW JERSEY'S

playground, where there will be bathing and plenty of other amusements. Luncheon will be served.

Thursday, July 1, 1926

Morning

9:00 A. M.—Meet Ladies' Committee for shopping tour of Newark Stores.

Afternoon

2:00 P. M.—Outing to WEEQUAMIC PARK, where the Official Picture will be taken, Baseball Game, Boating, Tennis, Golf; also other amusements.

Evening

8:00 P. M.—Banquet at MOSQUE (Salaam) Temple, followed by High-Class Entertainment and Dance.

The Ladies' Committee extends a very cordial invitation to all the ladies of other branches to be with us.

LADIES' COMMITTEE

Chairman, Mrs. Horace H. Smith,
208 North Third Street, Newark, N. J.

Mrs. Chas. Bohler, Secretary. Mrs. F. W. Matts, Treasurer

Mrs. Oliver Sizelove	Mrs. George Hogaboom
Mrs. Samuel Taylor	Mrs. Phillip Sievering
Mrs. George Reuter	Mrs. William DeVoti
Mrs. Frank Dressel	Mrs. Peter Labash
Mrs. S. Glickenhaus	Mrs. R. F. Clark
Mrs. George Conley	Mrs. A. C. Calabrese
Mrs. Fred Gumm	Mrs. Harry McGovern
Mrs. Conrad Frey	Mrs. J. A. Weiss
Mrs. W. L. Hults	Mrs. George Onksen
Mrs. Henry Bergfels	Mrs. Edward Faint
Mrs. C. H. Kopp	Mrs. G. Wagner

Mrs. Roy Stout

RESERVATION RATES

HOTEL REVIERA — Single rooms, $3.00 each; double rooms, $6.00.

HOTEL ROBERT TREAT—Single rooms, $4.00 each; double rooms, $8.00.

ELKS' HOME—50 single rooms, men only, at a very low rate.

ST. FRANCIS—Rates on application.

BRANCH NEWS

Newark Branch

Newark Branch held its regular meeting on Friday evening, May 9, President George Reuter in the chair, 24 members being present. One application for active membership was received, that of Mr. Frederick Groh, which was turned over to the trustees to take its usual course. It was decided to visit New York Branch at their last May meeting, and 14 members signified their intention to go in a body. Mr. Smith, chairman of the convention committee, reported that matters were shaping fine for the 1926 convention at Newark. Mr. Metch exhibited samples of his chromium plating, some of which were drilled, others sawed part way through and no signs of peeling resulted. Mr. Dondi explained a method of making a white gold solution.

Nomination of 1926-1927 officers took place and the election will take place at our next meeting. Meeting adjourned at 11 p. m.

Detroit Branch

Report on special business meeting held in conjunction with the educational session April 16, 1926. Ed Lovering acted as temporary chairman.

On account of having five applicants on file for over two months. we niminated and elected them unanimously subject to the approval by the Monthly Review.

It was unanimously voted to donate $50.00 per year for three years towards the research work of The Bureau of Standards and the Secretary was instructed to forward the first $50.00.

In order to reimburse the Treasury. Messrs. Lovering, Woodmansee, and Kutzen started the ball a rolling by donating one dollar each, it is hoped each member will do likewise, so as to keep a standing fund ready for educational purposes.

On account of our combined paper on "Corrosion and Tarnishing of Nickled Deposits" not being able to be completed in time for the Convention, Mr. B. Lewis kindly volunteered to prepare a paper on "Plating-Racks."

Mr. Lewis lectured and the members assisted in the discussion on the different types and additions to copper baths.

Regular meeting, May 7, with a good attendance. Chas. Cunningham in the chair.

Our June meeting will be a smoker in conjunction with our business meeting. "Chromium" will be the topic for the evening.

Under the good of the order, tarnshing and corrosion of nickle plated goods, monel metal, German-silver and solid nickle, the following facts were brought out.

Deposits from single nickle baths tarnish more readily than from a mixed bath.

Additions of cadmium did not stop the tarnishing.

Solid nickle, monel metal and other nickle mixtures tarnish more readily than nickle plated ware.

Nickle deposits on brass or copper tarnish quicker than nickle on steel.

Sttel automobile shells—coppered, buffed, flashed in a brass solution, nickled and buffed, tarnish quickly and do not stand up in the salt spray as well as steel coppered, buffed and nickled.

Tempered steel nickled resists tarnish longer than common steel.

The following members were elected for the ensuring year: President, J. H. Flanagan; Vice President, W. J. Patterson; Scretary, Geo. Kutzen; Librarian, Wm. J. Lamb; Board of Managers, Geo. Raab, W. E. White, Whylie F. Berger and F. J. Berger. Delegates to the Convention—E. G. Lovering, Chairman, W. E. White, A. E. Shepherd; Alternates—Chas. Cunningham, R. J. Lattimer, E. C. Eichstaedt.

Dayton Branch

Regular meeting of the Dayton Branch was held at the Y. M. C. A. May 1, with a good attendance, and was presided over by the President H. J. Harter. The minutes were approved as read. Motion made and carried to lay over to our June 5th meeting the appeal from the Research Committee for funds, to the extent of donating $50.00 a year for three years. Next in line was the election of officers: President, Albert Bates; Secretary, Robert Suman; Librarian, Wm. Hohman; Audit Committee—Robert Suman, Walter Fraine, Albert Bates. Board of Managers—H. J. Harter, Wm. Brandt, C. Van Deran; Delegates to the Nat. Convention—Walter Fraine, Clarence Van Deran and Ira Van Pelt; Alternates—H. J. Harter, Wm. Brandt, Wm. Hohman. Mr. Van Deran gave a very interesting talk on "Chromium Plating". Meeting adjourned at 10:30.

Toronto Branch

If the Picnic committee can find a place to locate we will hold a picnic some time in June.

Nomination and election of officers will take place at May meeting.

Mr. A. T. Davey is ill in Toronto General Hospital.

Mr. J. P. Moore of Carleton Place has given up the plating game and engaged in the boot and shoe business.

Mr. David Ayres of Prescott presented a short paper on Brass plating and submitted specimens of brass plated curtain fixtures which caused much interest. A section of ¾ inch by 30 inch curtain pole was split open and found to be well coated with brass on the inside, in fact, the deposit withstood ordinary buffing. Mr. Ayres raised the question—"What part does the inner surface of these tubes play when we wish to determine the relative surface of anodes and cathode?" "What proportion of the current flows to incur surface?" We have requested Mr. Ayres to submit an unopened section for our inspection, then we will give our determinations. Mr. Ayres samples were splendidly finished and the members greatly appreciated his efforts to help in our work.

Zinc solutions were discussed at considerable length and the following conclusions were the result:

Acid Zinc soltuions—Ingredients comparatively cheap, therefore this type of solution, cheaper than the cyanide solution, throwing power of acid zinc solutions poor, therefore used principally on flat surfaces.

Cyanide Zinc solutions—Generally favored during the late war, ingredients more expensive than used in acid baths, therefore cyanide solutions more expensive to operate, but the throwing power is much better and the cyanide solution has a degree of changing power. Cyanide solutions build up or increase in density quite rapidly owing to use of caustic soda and an excess of free cyanide. The remedy for this increasing density is to reduce the amount of cyanide to minimum sufficient to produce required deposits and to use steel anodes in place of some of the brass anodes, also remove anodes from solution each night. Some platers are said to make it a practice to throw away quite a percentage of brass solution each work day in order to lower the solution density. This was regarded as bad practice. Meeting adjourned at 10:30 P. M.

Chicago Branch

Regular monthly meeting Chicago Branch A. E. S. held Saturday evening, May 8, 1926, at the Atlantic Hotel.

Meeting called to order with President F. L. Greenwald presiding, and all officers present; there was a very good attendance.

After the regular routine of business we held our annual election of Officers; results were as follows:

Mr. Jacob Hay, President; Mr. Jerry DeGrazio, Vice President; Mr. R. Meyers, Secretary-Treasurer; Mr. O. E. Servis, Librarian. Board of Managers, Mr. George Burt, Mr. Cyril Kocour, M. E. V. Allen.

Delegates to the Newark Convention, Mr. F. J. Hanlon, Mr. O. E. Servis, Mr. F. L. Greenwald. Alternates, Mr. Jacob Hay, Mr. R. Meyers, Mr. Jerry DeGrazio.

Reports were heard from the Chairman of the Convention Committee, Mr. E. Lamoureaux, who reported that reservations were already being made with the Railroads for the same.

Mr. F. J. Liscomb reported that the joint meeting of Electro-Platers and the American Electro-Chemical Society was a big success from the report of their convention committee.

Mr. F. J. Hanlon reported that Dr. Wm. Blum was appointed President of the Electro Deposition Division of that Society, and Mr. F. J. Liscomb was appointed Chairman.

President Greenwald called upon Mr. Cyril Kocour for a talk on a Metal Content finder for Nickle Solutions which he had invented; Mr. Kocour explained that it was very accurate to an ⅛ to ¼ ounce of metal per gallon of solution; it is handled similar to a Double Wedge Acid Compartor and should prove very useful to all platers.

The balance of the evening was given over to the Librarian.

Before adjourning President Greenwald called the attention of the members that our next meeting will be Installation of Officers and Smoker, and wishes all members to attend.

Question Box

Q. 1. What will cause Duplex Copper plated Steel to peel after being Nickle Plated?

A. 1. Work not nickle plated heavy enough before Acid Copper deposit same attaching steel below deposit.

Q. 2. Can a heavy copper deposit be placed on a nickle deposit? Copper solution is Alkaline.

A. 2. Yes, but care should be used in cleaning nickel deposit.

Q. 3. Can rubber insulation be chemically removed from electrical wire?

A. 3. If rubber is not vulcanized Benzine will clean. Bilsulphite of Carbon was also suggested.

Q. 4. What is a good dip to use before plating Die Castings?

A. 4. Cyanide was suggested; also weak Muriatic Acid dip was recommended.

Q. 5. Can an Aluminum Die Casting be Nickel Plated to stand up as well as a Brass casting Nickel Plated under the same conditions.

A. 5. This caused a lively discussion, but census of opinion was that a Brass Casting Nickel Plated would stand up the best.

Wanted by Secretary of Chicago Branch, correct address of W. R. Cummings of Omaha, Neb.

American Electro Chemical Society

The American Electro Chemical Society held its spring meeting at the Chicago Beach Hotel, Chicago, Ill., April 22nd to 24th, 1926. All of the sessions are of interest to the electroplater, either directly or indirectly, but the session of this meeting that appealed to th electroplaters most strongly was the Round Table Discussion, of the Electro Deposition section of the Electro Chemical Society, who had invited the American Electroplaters Society members to take part in the discussions.

At shortly after noon, one hundred twenty five men, who were interested in the subject of Electro Deposition, gathered in one of the dining rooms and enjoyed a sumptuous lunch. After refreshing the inner man the Electro Chemists and Electro Platers were in fine feather. If any may judge by the way they went to the electro deposit question the meeting was a revelation to most of us.

The program was rather long and the time was short. A break in the meeting was necessary so that all could attend a general meeting, but so interesting was the Electro Deposition session that after the general meeting was over many gravitated to a convenient locality in the hotel and held a second session.

A printed program was provided which aided materially in keeping the mind concentrated on the subject under discussion. There was no stenographic report of the proceedings, therefore, much cannot be said in detail of the discussion.

Below is a copy of the program.

ROUND TABLE DISCUSSION—AMERICAN ELECTRO-CHEMICAL SOCIETY

Chicago—April 22, 1926

SELECTION OF THE PROPER PLATING METALS

From this title we are to understand that when an article has been or is to be manufactured, and this article must be electro plated, it becomes necessary to decide with what metal and by what process the article is to be plated.

For what reason is this article to be plated?

Consider the relative suitability and cost of various metals.

(A) To render all parts of a uniform color, where rust proofing or finish do not matter so long as it has a uniform color. This color may be white, black, brass, etc.

(B) Article must be rust proofed, as with zinc, cadmium, etc., not necessarily bright.

(C) Article must be bright and white and withstand a severe test against corrosion, as radiator shells, bumper bars, etc., usually coated with nickel over copper.

(D) Articles which must stand wear, as certain printing plates; embossing dies and gages; i. e., with nickel, chomium, etc.

(E) Electro plating with special reference to selective heat treating; i. e., copper plating.

(F) Reflecting surfaces as auto lamp reflectors; i. e., with silver and chromium.

(G) Electroplating metals to be in contact with foods and food stuffs; i. e., with silver and tin.

(H) Light weight articles corrected by electro deposition of a metal; i. e., lead in light weight shells.

(I) Correction of work on undersized parts by electro deposition—salvaging undersized shafts with a copper-nickel, iron or other metal deposit.

(J) For decorative purposes only.

Milwaukee Branch

Milwaukee Branch met May 13th, 1926 at Lipps Hall, Third and Chestnut streets for its regular monthly meeting. Attendance was very good.

Officers for the ensuing year were elected. R. M. Goodsell, President; Ed. Werner, Vice President; J. N. Hock, Secretary-Treasurer; Frank Marx, Librarian; M. Bilicki, Asst. Librarian. R. Sturernogel, D. Wittig, R. M. Goodsell, Delegates to Convention. P. C. Krawarcik, M. Bilicki, A. Gross, Alternates. The meeting adjourned at 11 o'clock.

ELECTED TO MEMBERSHIP

Detroit Branch

Stuart J. Colvin, Assoc. .....603 McNeal St., Jackson, Mich.
Wm. A. Shepherd, Active .....1108½ N. Saginam St., Flint, Mich.
Frank J. Perzyk, Acitve .....1020 High St. West, Detroit, Mich.
Harry Henry, Active .....c|o Stove Enameling Co., Detroit, Mich.
Leo. B. Grant, Assoc. .....205 3rd St., Jackson, Mich.

Hartford-Connecticut Valley Branch

Chas. D. Lane, Active .....20 Walter St., Springfield, Mass.
Walter J. Wilford ....c|o Corbin Cabinet Locks Co., New Britian, Conn.

New York Branch

F. B. Sullivan .....106 W. North St., Clion, N. Y.

Indianapolis Branch

Rudolph Komstanzer, Active .....319 E. 13th St., Connersville, Ind.
Richard Crooks, Active .....617 S. Union St., Kokomo, Ind.

Philadelphia Branch

Stephen A. Farris .....272 Chapel St., Luzerne, Pa.

Chicago Branch

L. C. Roesberger, Active
11831 Vose St., Route No. 2, Box 280, Lankershire, Calif.
Paul H. Mueller, Active .....1003 Hawthorne Ave., Waterloo, Iowa.

Bridgeport Branch

B. A. Moran .....352 Howard Ave., New Haven, Conn.
Wm. Hickey .....c|o Walace & Sons, Wallingford, Conn.

APPLICATIONS FOR MEMBERSHIP

Newark Branch

Mr. Frederick Groh .....77 Seymour Ave., Newark, N. J.
Arthur F. King .....23 Franklin St., Newark, N. J.

New York Branch

J. H. Baird .....2314 Grove St., Brooklyn, N. Y.
H. Leuine .....936 E. 178 St., New York, N. Y.

Toronto Branch

Mr. Benjamin Deakin .....Toronto, Canada.

Philadelphia Branch

Matthew Berenato .....2218 Peirce St., Philadelphia
Wm. Ackerman .....3542 Calumet St., Philadelphia

BOSTON

Regular meetings are held first Friday of each month, at 8 p. m., at the Boston Platers' Supply Co., 202 Friend St., Boston. Secretary, A. W. Garrett, 89 Alexander St., Dorchester, Mass.

BRIDGEPORT

Meets first and third Friday of each month at 62 Cannon St., Room 17, Bridgeport, Conn. Secretary R. J. O'Connor, 1228 Noble Ave., Bridgeport, Conn.

CHICAGO

Meets second Saturday of each month, at 8 p. m., Atlantic Hotel, 316 S. Clark St. Secretary, Robt. Meyers, 2432 Wilson Ave., Chicago, Ill.

CINCINNATI

Meets every Thursday, 7:30 p. m., at Vocational Training School, Spring and Liberty St. Secretary, W. J. Husing, 729 McMakin Ave., Cincinnati, Ohio.

CLEVELAND

Meets first Saturday of each month at Hotel Winton. Secretary, H. S. Kneeland, 3924 Clybourne Ave., Cleveland, Ohio.

HARTFORD-CONN. VALLEY

Meets in Springfield on alternate months. The Hartford meetings are held at the Hartford Engineers' Club, 12 Haynes St., and the Springfield meetings are held at the Springfield Chamber of Commerce, Broadway and Worthington St., Springfield. Tennant Elwin, Secretary, 117 Hobart St., Meriden, Conn.

DAYTON

Meets first Saturday of each month at the Y. M. C. A., Dayton, Ohio. Secretary, Albert Bates, Box 34, Vandalia, Ohio.

DETROIT

Meets the first and third Friday of each month at the Detroit Testing Laboratory, 554 Bagley Ave., Detroit. Secretary, Geo. Kutxen, 1087 W. State Fair Ave., Detroit, Mich.

GRAND RAPIDS

Meets on the second Wednesday of each month at the Vocational High School, 129 Bostwick Ave., N. E. Secretary, John Raven, 1139 Emerald Ave., Grand Rapids, Mich.

INDIANAPOLIS

Meets the second Saturday of each month at Hotel Denison. Secretary, Louis Mertz, 1725 Union St., Indianapolis, Ind.

MILWAUKEE

Meets second and fourth Thursdays of each month at Lipps Hall, 321 3d St. Secretary, Roy Hunt, 1314 Atkinson Ave., Milwaukee, Wis.

MONTREAL

Meets every Friday at 84 Craig St. West. Secretary, John H. Feelay, 411 Aylmer St., Quebec, Canada.

NEWARK

Meets first and third Fridays of each month at Hotel St. Francis, 22-24 E. Park St., Newark, N. J., at 8 p. m. Secretary-Treasurer, Royal F. Clark, 55 Seymour Ave., Newark, N. J.

NEW YORK

Meets every second and fourth Fridays of each month in the World Building, Park Row, New York City, N. Y. Secretary, J. E. Sterling, 468 Grand Ave., Long Island City, N. Y.

PHILADELPHIA

Meets first Friday of each month in the Harrison Laboratory Building, University of Pennsylvania, 34th and Spruce Sts. Secretary, P. Uhl, 2432 North 29th St., Philadelphia, Pa.

PITTSBURGH

Meets first Saturday of each month at 8 p. m., at United States Bureau of Mines Bldg., Forbes St. Secretary, S. E. Hedden, 227 Fifth St., Aspinwall, Pa.

PROVIDENCE-ATTLEBORO

Meets first and third Thursday of each month at 184 Washington St., Room 308, Providence, R. I. Secretary, Robert Crook, 185 County St., Attleboro, Mass.

READING

Meets on the second Tuesday of each month. Secretary, William M. Fisher, 654 Gordon St., Reading Pa.

ROCHESTER

Meets every second and fourth Saturday of each month at the Powers Hotel. C. A. Reama, Secretary, 512 Lyell Ave., Rochester, N. Y.

ST. LOUIS

Meets first Tuesday of each month at Barr Branch Library, corner Jefferson and Lafayete Sts. Secretary, F. P. Menniges, 3205 A Arsenal St., St. Louis.

TOLEDA

Meets first Thursday of each month at Toledo University Science Building, Electro-Platers' Room, corner Cherry and Page Sts. Secretary, W. W. Weiker, 411 3d St., Toledo, Ohio.

TORONTO

Meets fourth Monday of each month at Canadian Foresters' Hall, 22 College St., Room No. 2. Walter L. Barrows, 628 Dover Court Road, Toronto, Ontario, Canada.

WATERBURY

Meets every second and fourth Friday of each month. Secretary, Wm. F. Guilfoile, 14 Oakland Ave., Waterbury, Conn.